

## ***Orofacial Pain Procedures in the National Health and Nutrition Examination Survey (NHANES) IV***

### ***Procedure & Method Information***

<i>Name of Procedure/Method</i>	Orofacial Pain Procedures in the National Health and Nutrition Examination Survey (NHANES) IV	<i>Abbreviation</i>	N/A
<i>Purpose</i>	To assess the prevalence of orofacial pain.		
<i>Year of Establishment</i>	N/A	<i>Type of Procedure/Method</i>	
<i>Developer(s)</i>	National Center for Health Statistics (NCHS), United States	<i>Oral Condition Category</i>	

### ***Background Information***

<i>Background Information</i>	<p>In National Health and Nutrition Examination Survey (NHANES) IV, 1998-2004, sample persons (SPs) from the age of 10 to 69 years received the orofacial pain assessment. This assessment consisted of two parts, a questionnaire and a physical examination. SPs aged 10 to 12 years received only the questionnaire portion, while SPs aged 13 to 69 years received both the questionnaire and the physical examination.</p> <p>The Orofacial Pain Questionnaire assesses the frequency of five different types of orofacial pain, toothache pain or painful tooth for ages 10-69 years, sores or irritations for ages 10-69 years, jaw joint pain among ages 13-69 years, dull and aching facial pain among ages 13-69 years, and burning sensations in the mouth for ages 18-69 years. A positive response to any of the above five orofacial pain categories leads to further questions regarding the frequency of that specific type of pain in the last 30 days, and two quality of life questions. For the physical exam, the prevalence of pain is evaluated by the palpation of the masseter muscle and temporomandibular joint (TMJ).</p>
<i>Changes Over Time</i>	N/A

### ***Procedure Method***

<i>Procedure Method</i>	<p>For the orofacial pain questionnaire session, SPs are simply interviewed by the dental recorder, and the SPs' responses are recorded as noted.</p> <p>The physical exam has three assessments, the maximal incisal opening, palpation of the masseter muscle, and palpation of the TMJ. The following general guidelines are adhered to for all three. They are:</p>
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- All of the orofacial pain assessments are conducted with the jaw muscles in the passive state. The joints and muscles should not receive additional weight or pressure other than that of joint and muscle palpation at any time.
- SPs should be positioned at a 90-degree angle to the examiner.
- SPs with replacement prostheses are examined with the prostheses in place. Bite plates and other appliances that do not replace teeth are to be removed.
- The examiner must keep nails short in order to safely use fingertips for palpation.

Source: National Center for Health Statistics. National Health and Nutrition Examination Survey IV, 1998-2004. Washington, DC: U.S. Government Printing Office.

The first assessment is the determination of the maximal incisal opening. First, the SP is asked to position his/her mandible or jaw in a comfortable position and to open his/her mouth as wide as possible, even if pain occurs. Then, using a endodontic ruler, measure from the incisal edge of the most vertically oriented upper or maxillary central incisor to the labio-incisal edge of the opposing lower or mandibular incisor. If a prosthesis has replaced the central incisors, examine from the incisal edge of the prosthetic or replacement tooth. If the SP is edentulous and does not have a prosthetic device, then the maximal incisal opening cannot be assessed (i.e., code "99"). The measurement is dictated in whole millimeters (mm) to the recorder, and fractional measurements are rounded down to the nearest whole number. The calls for maximal incisal opening are as follows:

- 0 - 65 = Measurement in mm (where 65 = 65 mm or greater)
- 99 = Cannot be assessed.

The next two assessments are the palpations of the masseter muscle and the TMJ. These two assessments also have specific general guidelines that are followed, in addition to the general guidelines for the entire physical exam. They are:

- Examination of muscles and joint capsules for tenderness requires pressing on a specific site with standardized pressure. Use the fingertips of the index and third fingers or the spade-like pad of the distal phalanx of the index finger only. The standardized pressure is as follows: masseter muscle with 2 pounds (lbs.) of pressure and joints with 1 lb. of pressure.
- Each palpation is done on the SP's right side first, then the left side.
- Palpate while using the opposite hand to brace the head to provide stability. Do not press down on the SP's head with pressure. The SP's mandible should be in a resting position, without teeth touching. Palpate while muscles are in a passive state.
- First locate the site of palpation using the landmarks described and then press/palpate.
- Ask the SP if the palpation hurts (i.e., "Is that painful?").

- Equivocal responses and responses of "pressure only" are to be reported as "no pain upon palpation" (i.e., code "2").

Source: National Center for Health Statistics. National Health and Nutrition Examination Survey IV, 1998-2004. Washington, DC: U.S. Government Printing Office.

For the masseter muscle assessment, 2 lbs. of finger pressure are applied during the entire palpation and the muscle is palpated in a Z-shaped fashion starting from the origin (i.e., the superior border) to the body of masseter muscle followed by the insertion (i.e., the inferior border). From the origin, begin 1 centimeter (cm) directly in front of the TMJ and below the zygomatic arch and palpate anteriorly towards the border. At the body of the masseter muscle, continue just below the zygomatic process and palpate diagonally down and back to the angle of the mandible across a surface area of approximately two fingers wide. Then, at the insertion of the masseter muscle, begin 1 cm superiorly and anteriorly to the angle of the mandible and palpate to the anterior border. As stated above, the palpation is conducted first on the right side of the face and then on the left.

Afterwards, the palpation of the TMJ is done. Again, apply 1 lb. of digital pressure. The palpation of the TMJ can be conducted in one of two ways, the open-mouth position (i.e., lateral pole) or closed-mouth position (i.e., posterior attachment).

In the open-mouth position or lateral pole, ask the SP to relax and double check that the SP is not clenching his/her teeth. After, place index finger just anterior to the tragus of the ear and over the SP's TMJ, and then ask the SP to open slightly until the lateral pole of the condyle is translated forward. While supporting the SP's head with the opposite hand, palpate applying 1 lb. of pressure and asking the SP if he/she feels pain after each palpation.

For the closed-mouth position or posterior attachment, first explain the procedure to the SP before proceeding. Then, place the tip of the left little finger into the SP's right external meatus. Next, point fingertip towards oneself and ask the SP to open his/her mouth slightly or wide, if necessary, to make sure the fingertip can feel the the joint movement. While maintaining firm fingertip pressure, ask the SP to close his/her mouth and whether pain is apparent. The exam is repeated on the left side by inserting the right little finger into the left external meatus and proceeding as indicated above.

For each orofacial palpation assessment, the masseter muscle and TMJ, the occurrence of pain is determined and coded as follows:

- 1 = Pain upon palpation
- 2 = No pain upon palpation
- 9 = Cannot be assessed

*Established Modifications*      N/A

*Federal Survey  
Modifications*                      N/A

## ***References***

### *References*

Textbooks, Manuals, and the Internet:

National Center for Health Statistics. National Health and Nutrition Examination Survey IV, 1998-2004. Washington, DC: U.S. Government Printing Office.

### *Validaty*

### *Reliability*

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## ***Listing of Publications with Surveys &***

### *Surveys & Studies*

United States Surveys & Studies:

National Center for Health Statistics. National Health and Nutrition Examination Survey IV, 1998-2004. Washington, DC: U.S. Government Printing Office.